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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/473,137

12/28/1999

MATSUTARO MIYAMOTO

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04/13/2004

ARMSTRONG, KRATZ, QUINTOS, HANSON & BROOKS, LLP
1725 K STREET, NW
SUITE 1000
WASHINGTON, DC 20006

EXAMINER

VERDIER, CHRISTOPHER M

ART UNIT

PAPER NUMBER

3745

DATE MAILED: 04/13/2004

26

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/473,137

Applicant(s)

MIYAMOTO ET AL.

Examiner

Christopher Verdier

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 4-28-03, 5-9-03, 8-6-03.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 38-84 and 87-100 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 80-82 and 88-100 is/are allowed.
- 6) ☒ Claim(s) 38, 42, 43, 49, 51, 57-59, 63, 64, 70, 72, 78, 79, 83, 84, 87 is/are rejected.
- 7) ☒ Claim(s) 39-41, 44-48, 50, 52-56, 60-62, 65-69, 71 and 73-77 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 December 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☒ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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Applicants' Amendment dated April 28, 2003, Supplemental Response dated May 9, 2003, and Supplemental Response dated August 6, 2003 have been carefully considered but are deemed non-persuasive. Claims 38-84 and 87-100 are pending. Applicants' comment with regard to the objection to the specification to provide a patent number for application number 09/104,171 is that a patent number had not yet been assigned. Application 09/104,171 is now assigned U.S. Patent Number 6,332,752. The specification should be amended accordingly. The claims have been amended to overcome the informalities set forth in the first Office action. Correction of the above matter is noted with appreciation.

Applicant's arguments, see page 8, lines 6-23 and page 9, lines 1-2, filed April 28, 2003, with respect to the rejection of claims 89 and 93 under 35 USC 112, first paragraph, as containing new matter, have been fully considered and are persuasive. The rejection of claims 89 and 93 under 35 USC 112, first paragraph, as containing new matter is been withdrawn. Applicant is thanked for clarifying this matter. With regard to the rejection of claims 51, 72, 83-84 under 35 USC 112, first paragraph, as containing new matter, Applicants have argued that the sealing portion is provided between portion A of Addendum B and portion B, and that portion A of the stator is caused to be rotated with a rotating element by abnormal torque, while portion B is not rotated by the abnormal torque and is stationary. While this statement is correct, note that portion B is a portion of the casing, which is stationary, and not the stator, as is claimed. Claims 51, 72, and 83-84, by reciting "and a portion which is not rotated with the rotating element", refer back to the portion of the stator, which is stationary, which is incorrect. The casing B is stationary, not the stator. In order to correct this, it is suggested that Applicants amend "and a

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portion which is not rotated with the rotating element" to -- and a portion of the casing which is not rotated with the rotating element --. Note that claims 72 and 83-84 are indefinite for the same reason.

With regard to the rejection of claims 38, 42, 43, 51, 57, 59, 63-64, 72, 78, and 83 under 35 U.S.C. 102(b) as being anticipated by German Patent 2,214,702, the rejection of claims 38, 42, 43, 51, 57, and 83 under 35 U.S.C. 102(b) as being anticipated by German Patent 3,402,549, and the rejection of claims 38, 42, 43, 51, 58, 59, 63-64, 72, 79, and 83 under 35 U.S.C. 102(b) as being anticipated by Deters 4,797,062, Applicants have explained the process with which the inventor tackled the effect of abnormal torque which is generated and transmitted from the rotor to the stator of the turbomolecular pump, and have argued that these above claims are patentable because the clearance in the present invention is fundamentally different from the clearances in German Patent 2,214,702 and German Patent 3,402,549, because the clearances in both German patents are created for the necessity of the manufacturing process and cost reduction by not being concerned with machining accuracy. Applicants have also argued that the clearance described in Deters is created for preventing heat transmission caused by being in contact with one another. Applicants have further argued that the clearances disclosed by German Patent 2,214,702, German Patent 3,402,549, and Deters are created from a static point of view, while the clearance of the instant application is created from a dynamic point of view, focusing on impact and frictional forces being generated and transmitted from the rotor to the stator upon abnormal torque generation, while in German Patent 2,214,702, German Patent 3,402,549, and Deters, a part of the clearance between the pump casing and the stator is surely and immediately lost,

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causing the stator to come into contact with the pump casing, stopping the stator rotation against the pump casing, thus transmitting an excessive torque caused by the impact and frictional forces to the pump casing. Applicants have further argued that German Patent 2,214,702, German Patent 3,402,549, and Deters have no description about the purpose set in the present application of reducing the impact force and torque transmission to the pump casing when an abnormal torque is generated and transmitted from the rotor to the stator. These arguments are not persuasive, because these features upon which applicant relies are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). It is the examiner's position that each of German Patent 2,214,702, German Patent 3,402,549, and Deters disclose a clearance formed between the stator and the casing portion so that when abnormal torque is applied from the rotor to the stator, at least a part of the stator is allowed to move radially into the clearance, as identified in the rejections under 35 USC 102 set forth below.

With regard to the rejection of claim 59 under 35 UCS 102b) as being anticipated by Japanese Patent 59-153,988, Applicants have argued that this reference relates to an installation device for a turbomolecular pump, not a turbomolecular pump itself equipped with an exhaustion function, and that installation housing 10 thereof is not capable of functioning as a vacuum pump and does not have any exhaust path which allows the interior space of the installation housing 10 to be exhausted itself. These arguments are not persuasive, because these features upon which applicant relies are not recited in the rejected claim(s). Although the claims are interpreted in

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light of the specification, limitations from the specification are not read into the claims. Claim 59 makes no mention of an exhaustion function or of a vacuum. As set for the later below, Japanese Patent 59-153,988 broadly discloses a turbomolecular pump 30, a casing portion 11c that houses the stator and rotor therein, the vane pumping section comprised by the stator and rotor, with an unnumbered clearance to the left of 25 formed between the stator 25/31 and casing portion 11c, so that when abnormal torque is applied from the rotor 32 to the stator, at least a part of the stator 25/31 is allowed to rotate. Applicants' argument that the Japanese Patent 59-153,988 does not disclose a clearance between the pump casing and the stator, but a space between the installation housing 10 and the pump casing 25 is not persuasive for the reason immediately above.

Applicants' argument that claim 59 recites a clearance formed between the stator and the casing portion, so that when abnormal torque is applied from the rotor to the stator, at least a part of the stator is allowed to rotate, and Japanese Patent 6-40954 does not disclose such a feature, is persuasive. Applicant's arguments, see page 18, lines 13-20 and page 19, lines 1-3, filed April 28, 2003, with respect to Japanese Patent 6-40954 have been fully considered and are persuasive. The rejection of claims 59-69, 73-74, and 76 under 35 U.S.C. 102(b) as being anticipated by Japanese Patent 6-40954 is withdrawn.

Applicants' argument that claim 80 has been amended to recite that the temperature adjusting mechanism is attached to a spiral groove pumping section spacer, and defines over

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Japanese Patent 63-223,394, Japanese Patent 3-124,998, and Japanese Patent 62-29 is persuasive.

Claim 80 is allowed.

With regard to claim 87, Applicants have noted that claim 87 recites a heating source provided at a lower end portion of the stator of the groove pumping section, and that neither Okamura 5,924,841, Japanese Patent 9-72,293, nor Japanese Patent 2557551 disclose this feature. Specifically, Applicants have argued that in Okamura 5,924,841 and Japanese Patent 9-72,293, both of these references disclose a heater 14 provided outside of casing 1, with reference numerals 16 and 17 representing a bulkhead and a good heat conductor, respectively, and that the bulkhead 16 consisting of a heat transfer body and the good heat conductor 17 are not a heat source but rather a heat transfer member. These arguments are not persuasive, because Patent Office policy is to give claims there broadest reasonable interpretation during examination; see, for example, *In re Hyatt*, 211 F.3d 1367, 1372, 54 USPQ2d 1664, 1667 (Fed. Cir. 2000). In Okamura (figure 2), and Japanese Patent 9-72,293 (figure 2), bulkhead 16 is broadly considered to be heat source, because heat is transmitted to the bulkhead 16 by good heat conductor 17, and therefore bulkhead 16 will be a source of heat. Applicants have argued that Japanese Patent 2557551 discloses a heating portion comprising nichrome wires 17, 18 provided at a location outwardly of the groove pumping section and at a location inwardly of the groove pumping section, respectively. The examiner disagrees with Applicants' argument that claim 87 defines over Japanese Patent 2557551, because heating source 18 is broadly located at a lower end portion of the stator 16 of the groove pumping section.

Terminal Disclaimer

The terminal disclaimer filed on August 6, 2003 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of U.S. Patent 6,332,752 has been reviewed and is accepted. The terminal disclaimer has been recorded.

The declaration under 37 CFR 1.132 filed April 28, 2003 is insufficient to overcome the rejection of claims 38, 42, 43, 51, 57, 59, 63-64, 72, 78, and 83 under 35 U.S.C. 102(b) as being anticipated by German Patent 2,214,702, the rejection of claims 38, 42, 43, 51, 57, and 83 under 35 U.S.C. 102(b) as being anticipated by German Patent 3,402,549, the rejection of claims 38, 42, 43, 51, 58, 59, 63-64, 72, 79, and 83 under 35 U.S.C. 102(b) as being anticipated by Deters 4,797,062, and the rejection of claim 59 under 35 U.S.C. 102(b) as being anticipated by Japanese Patent 59-153,988, as set forth in the last Office action. The reasons why the declaration is insufficient are the same reasons set forth above in response to the attorney arguments above; that is, the attorney arguments and the arguments set forth in the declaration are the same.

The declaration under 37 CFR 1.132 filed April 28, 2003 is sufficient to overcome the rejection of claims 59-69, 73-74, and 76 under 35 U.S.C. 102(b) as being anticipated by Japanese Patent 6-40954. The reasons why the declaration is sufficient to overcome this rejection are the same reasons set forth above in response to the attorney arguments above; that is, the attorney arguments and the arguments set forth in the declaration are the same.

Specification

The disclosure is objected to because of the following informality: Appropriate correction is required.

On page 1, line 2, the patent number for application 09/104,171 (U.S. Patent Number 6,332,752) should be provided.

Certified Copies of Foreign Priority Documents

Applicant has not filed a certified copy of Japanese applications 187681/1997 and 29160/1998 as required by 35 U.S.C. 119(b).

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 51, 72, and 83-84 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Newly submitted claim 51, lines 3-4 recite that a sealing portion is provided between a portion (of the stator) which is not rotated with the rotating element by the abnormal torque and is stationary. As seen in the elected embodiment of figures 29-30, and disclosed in the specification, the sealing portion 200 is not provided between a

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portion (of the stator) which is not rotated with the rotating element by the abnormal torque and is stationary, but rather is provided between a portion of the stator 32 that is rotated with the rotating element by the abnormal torque and is rotating. Claim 72, lines 3-4 contain new matter for the same reason. Claim 83, lines 6-7 contain new matter for the same reason.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 51, 72, and 83-84 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 51, lines 3-4, which recite that a sealing portion is provided between a portion (of the stator) which is not rotated with the rotating element by the abnormal torque and is stationary, is inaccurate. As seen in the elected embodiment of figures 29-30, and disclosed in the specification, the sealing portion 200 is not provided between a portion (of the stator) which is not rotated with the rotating element by the abnormal torque and is stationary, but rather is provided between a portion of the stator 32 that is rotated with the rotating element by the abnormal torque and is rotating. In claim 51, line 3, "a portion" is indefinite because it is unclear what element this corresponds to. Claim 72, lines 3-4, which recite that a sealing portion is provided between a portion (of the stator) which is not rotated with the rotating element by the abnormal torque and is stationary, is inaccurate. As seen in the elected embodiment of figures 29-30, and disclosed in the specification, the sealing portion 200 is not provided between a portion (of the stator) which is not rotated with the rotating element by the abnormal torque and is stationary, but rather is provided between a portion of the stator 32

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that is rotated with the rotating element by the abnormal torque and is rotating. In claim 72, line 3, "a portion" is indefinite because it is unclear what element this corresponds to. Claim 83, lines 6-7, which recite that a sealing portion is provided between a portion (of the stator) which is not rotated with the rotating element by the abnormal torque and is stationary, is inaccurate. As seen in the elected embodiment of figures 29-30, and disclosed in the specification, the sealing portion 200 is not provided between a portion (of the stator) which is not rotated with the rotating element by the abnormal torque and is stationary, but rather is provided between a portion of the stator 32 that is rotated with the rotating element by the abnormal torque and is rotating. In claim 83, line 7, "a portion" is indefinite because it is unclear what element this corresponds to.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 38, 42, 43, 51 (as far as claim 51 is definite), 57, 59, 63-64, 72 (as far as claim 72 is definite), 78, and 83 (as far as claim 83 is definite), are rejected under 35 U.S.C. 102(b) as being anticipated by German Patent 2,214,702 (figures 2-3). Note the turbomolecular pump having rotor 3, stator 2/7 surrounding the rotor, casing portion 1 that houses the stator and rotor

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therein, the unnumbered vane pumping section comprised by the stator and rotor, with a clearance to the left of 7 formed between the stator 2/7 and casing portion 1, so that when abnormal torque is applied from the rotor 3 to the stator, at least a part of the stator is allowed to move radially into the clearance, by compressing unnumbered resilient sealing members. Note the impact absorbing member in the form of the resilient sealing members provided between the stator and the casing portion. The sealing portion is provided between a portion of the stator that is caused to rotate with a rotating blade element by the abnormal torque and a portion of the casing 1 that is not rotated by the abnormal torque. The clearance is provided between the stator 2/7 and the casing portion 1 so that when the abnormal torque is applied from the rotor to the stator, at least a part of the stator is allowed to rotate.

Claims 38, 42, 43, 51 (as far as claim 51 is definite), 57, and 83 (as far as claim 83 is definite), are rejected under 35 U.S.C. 102(b) as being anticipated by German Patent 3,402,549 (figure 1). Note the turbomolecular pump having rotor 3, stator 2/7 surrounding the rotor, casing portion 1 that houses the stator and rotor therein, the vane pumping section 11/12 comprised by the stator and rotor, with a clearance to the left of 7 formed between the stator 2/7 and casing portion 1, so that when abnormal torque is applied from the rotor 3 to the stator, at least a part of the stator is allowed to move radially into the clearance, by compressing unnumbered resilient sealing members. Note the impact absorbing member in the form of the resilient sealing members provided between the stator and the casing portion. The sealing portion is provided between a portion of the stator that is caused to rotate with a rotating blade element 12 by the abnormal torque and a portion of the casing 1 that is not rotated by the abnormal torque.

Claims 38, 42, 43, 51 (as far as claim 51 is definite), 58, 59, 63-64, 72 (as far as claim 72 is definite) 79, and 83 (as far as claim 83 is definite), are rejected under 35 U.S.C. 102(b) as being anticipated by Deters 4,797,062 (figure 1). Note the turbomolecular pump having rotor 7, stator 9/14 surrounding the rotor, casing portion 1/11 that houses the stator and rotor therein, the vane pumping section 8/9 comprised by the stator and rotor, and the groove pumping section 6/14 with a clearance 17 formed between the stator 14 and casing portion 1, so that when abnormal torque is applied from the rotor 3 to the stator, at least a part of the stator is allowed to move radially into the clearance, by compressing resilient sealing members 15, 16. Note the impact absorbing member in the form of the resilient sealing members 15, 16 provided between the stator and the casing portion. The sealing portion is provided between a portion of the stator that is caused to rotate with a rotating blade element by the abnormal torque and a portion of the casing 1 that is not rotated by the abnormal torque. The clearance is provided between the stator 14 and the casing portion 1 so that when the abnormal torque is applied from the rotor to the stator, at least a part of the stator is allowed to rotate.

Claim 59 is rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Patent 59-153,988 (figure 2). Note the turbomolecular pump 30 having rotor 32, stator 25/31 surrounding the rotor, casing portion 11c that houses the stator and rotor therein, the vane pumping section comprised by the stator and rotor, with an unnumbered clearance to the left of 25 formed between the stator 25/31 and casing portion 11c, so that when abnormal torque is applied from the rotor 32 to the stator, at least a part of the stator 25/31 is allowed to rotate.

Claim 87 is rejected under 35 U.S.C. 102(e) as being anticipated by Okamura 5,924,841 (figure 2). Note that the effective filing date of the subject matter of claims 85-87 is July 14, 1999. Note the turbomolecular pump having casing portion 1 housing stator 4/19 and rotor 6 therein, the vane pumping section near 4 comprised by the stator and the rotor, the groove pumping section near 9 comprised by the stator 19 and rotor 6 and the heating source 16 provided at a lower portion/lower end of the stator of the groove pumping section. Because the heating source is located in the vacuum pump, it is in a vacuum condition.

Claim 87 is rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Patent 2557551 (figure 1). Note the turbomolecular pump having casing portion 1 housing stator 6/16 and rotor 4 therein, the vane pumping section near 5/6 comprised by the stator and the rotor, the groove pumping section near 15/16 comprised by the stator 16 and rotor 15 and the heating source 18 provided at a lower portion/lower end of the stator of the groove pumping section. Because the heating source is located in the vacuum pump, it is in a vacuum condition.

Claim 87 is rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Patent 9-72,293 (figure 2). Note the turbomolecular pump having casing portion 1 housing stator 4/19 and rotor 6 therein, the vane pumping section near 4 comprised by the stator and the rotor, the groove pumping section near 9 comprised by the stator 19 and rotor 6 and the heating source 16 provided at a lower portion/lower end of the stator of the groove pumping section. Because the heating source is located in the vacuum pump, it is in a vacuum condition.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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Claim 49 is rejected under 35 U.S.C. 103(a) as being unpatentable over either (German Patent 2,214,702 or German Patent 3,402,549) in view of Schutz 5,577,883. German Patent 2,214,702 and German Patent 3,402,549 disclose turbomolecular pumps substantially as claimed as set forth above including respective stators 7, 2, but do not disclose a temperature adjusting mechanism for directly or indirectly heating or cooling the stator.

Schutz 5,577,883 (figure 2) shows a turbomolecular pump having a cooling pipe 41 located adjacent a stator 4 at the inlet of the pump, for the purpose of cooling the pump.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide the turbomolecular pump of either German Patent 2,214,702 or German Patent 3,402,549 with a cooling pipe adjacent the stator at the inlet to the pump, as taught by Schutz, for the purpose of cooling the pump.

Claim 70 is rejected under 35 U.S.C. 103(a) as being unpatentable over German Patent 2,214,702 in view of Schutz 5,577,883. German Patent 2,214,702 discloses a turbomolecular pump substantially as claimed as set forth above including a stator 7, but does not disclose a temperature adjusting mechanism for directly or indirectly heating or cooling the stator.

Schutz 5,577,883 (figure 2) shows a turbomolecular pump having a cooling pipe 41 located adjacent a stator 4 at the inlet of the pump, for the purpose of cooling the pump.

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It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide the turbomolecular pump of German Patent 2,214,702 with a cooling pipe adjacent the stator at the inlet to the pump, as taught by Schutz, for the purpose of cooling the pump.

Allowable Subject Matter

Claims 80-82 and 88-100 are allowed.

Claims 39-41, 44-48, 50, 52-56, 60-62, 65-69, 71, and 73-77 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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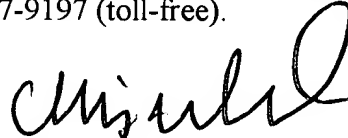
however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher Verdier whose telephone number is (703)-308-2638. The examiner can normally be reached on Monday-Friday from 10:00-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward K. Look can be reached on (703) 308-1044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

C.V.
April 9, 2004



Christopher Verdier
Primary Examiner
Art Unit 3745